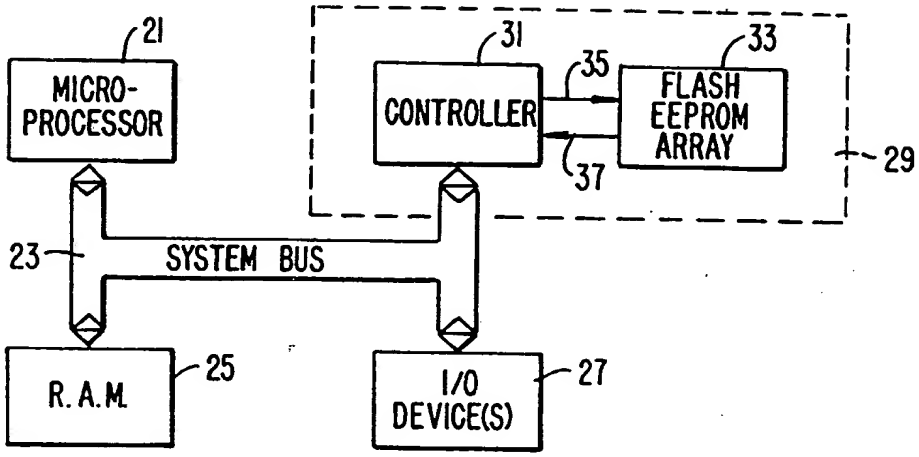


FIG._1A

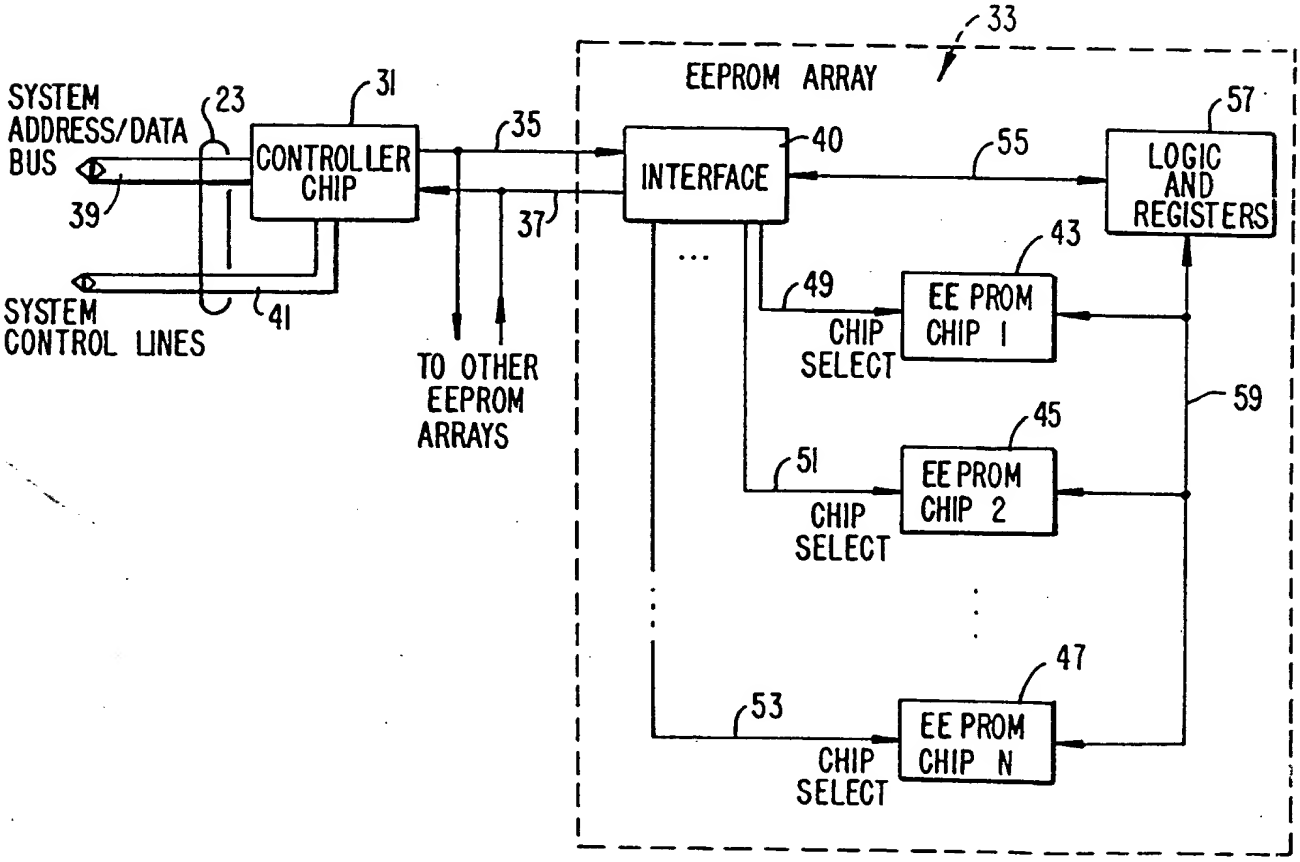


FIG._1B

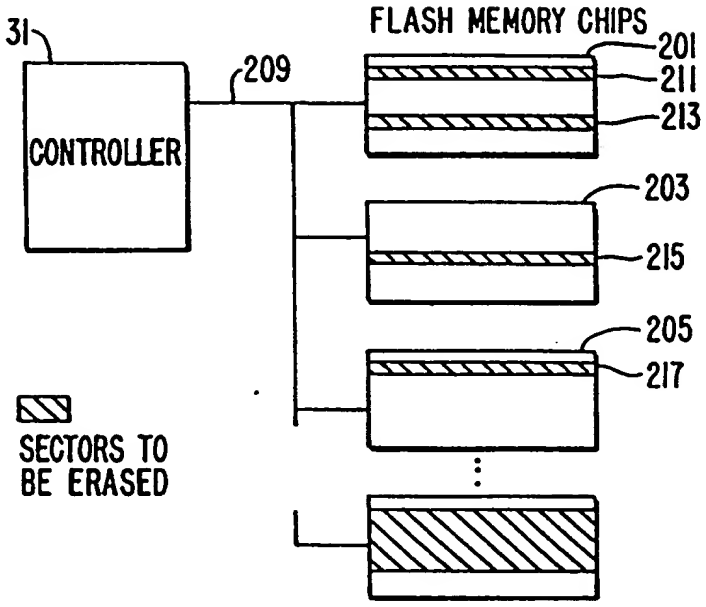


FIG._2

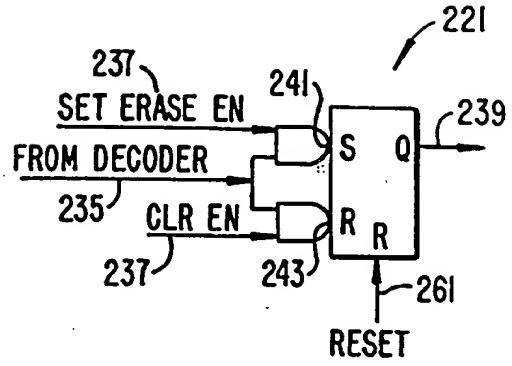


FIG._3B

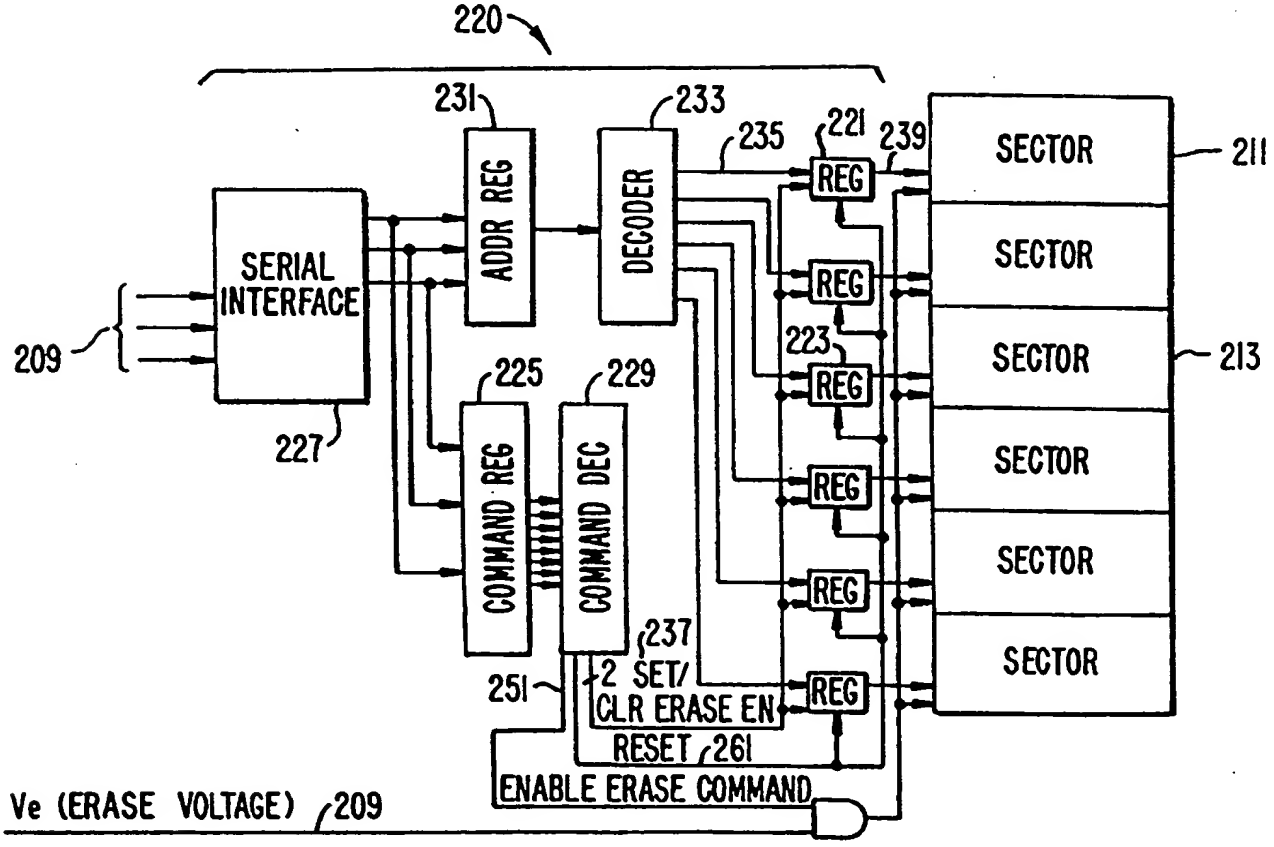


FIG._3A

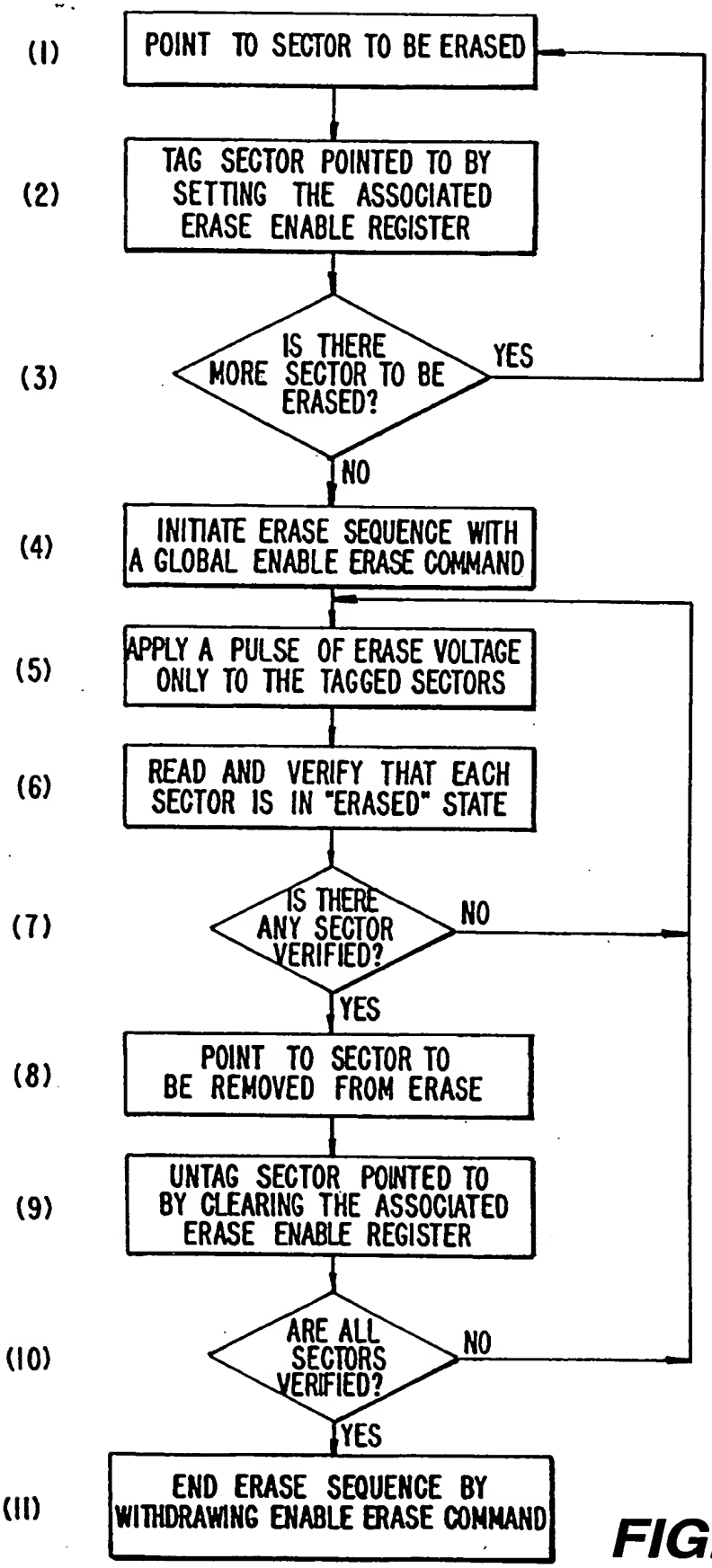


FIG._4

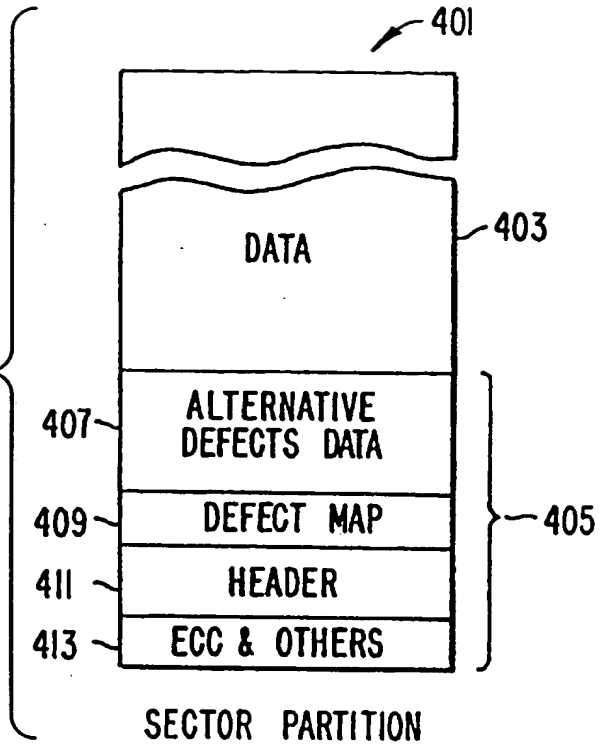
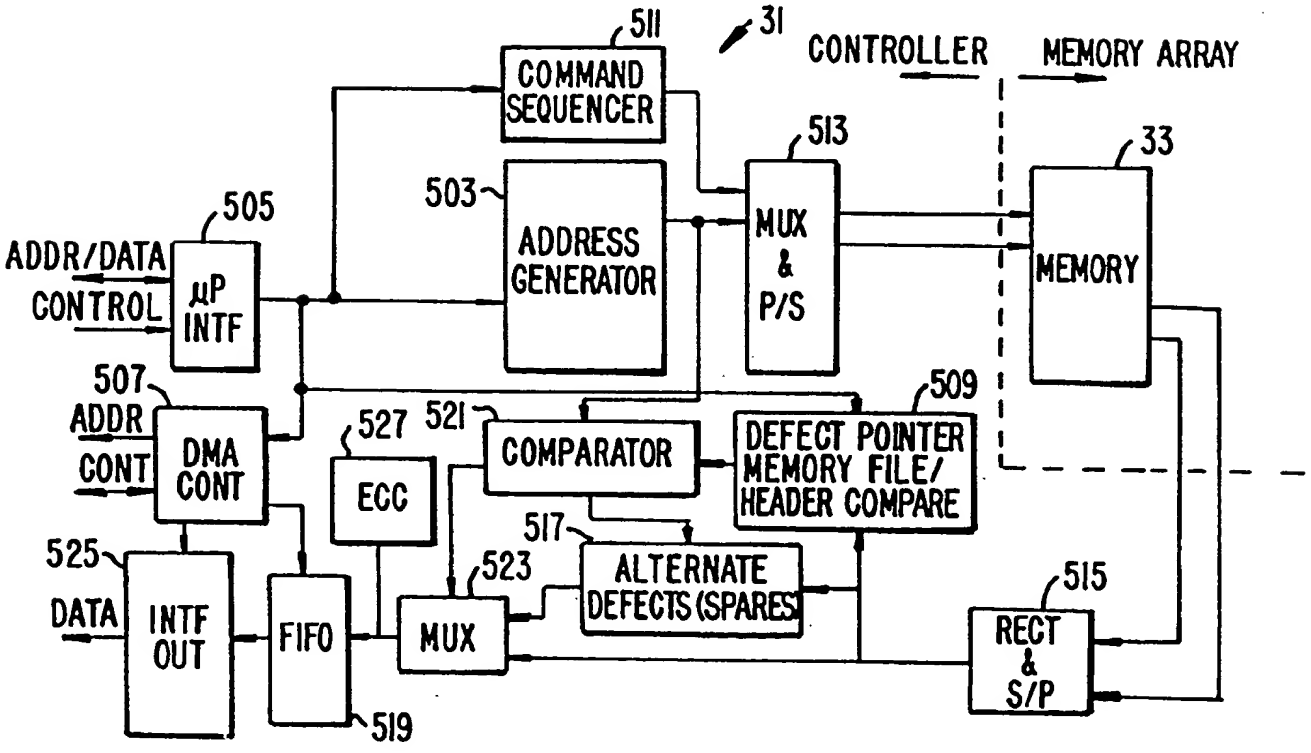


FIG._5



READ DATA PATH CONTROL

FIG._6

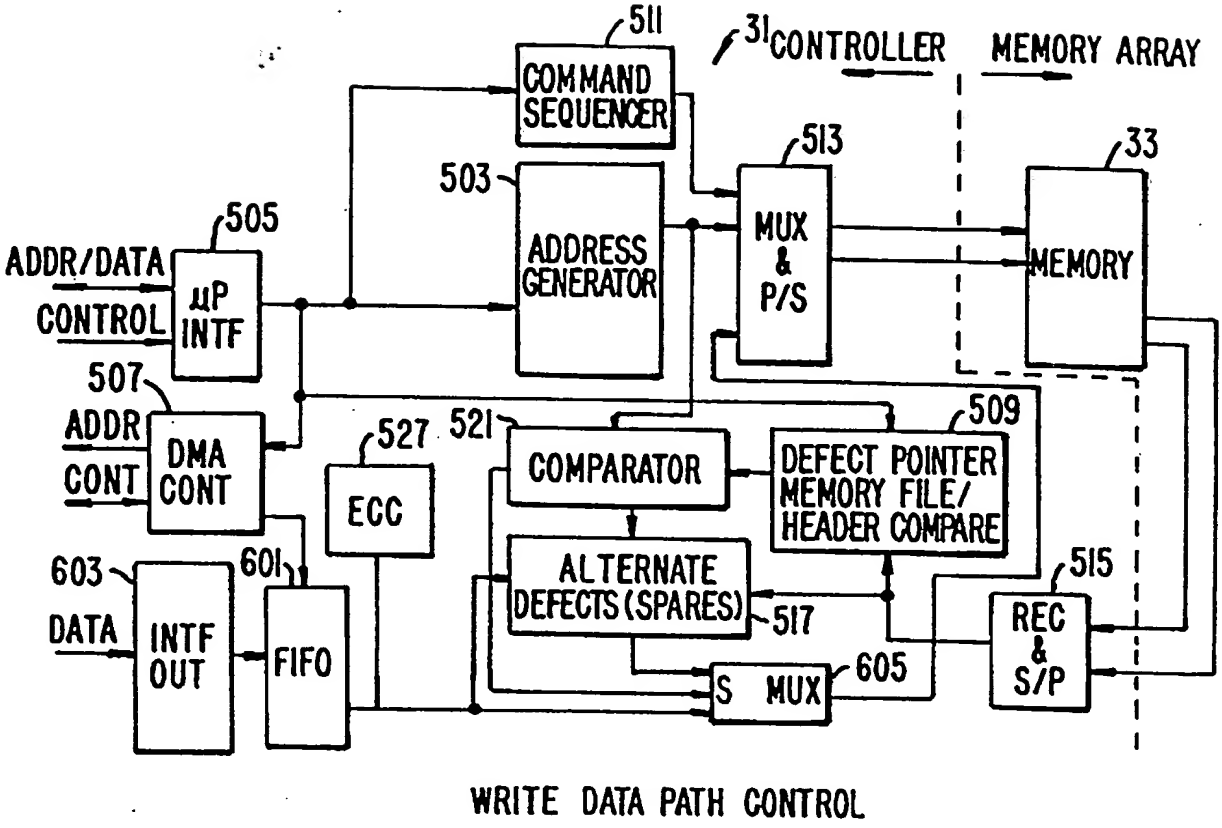


FIG._7

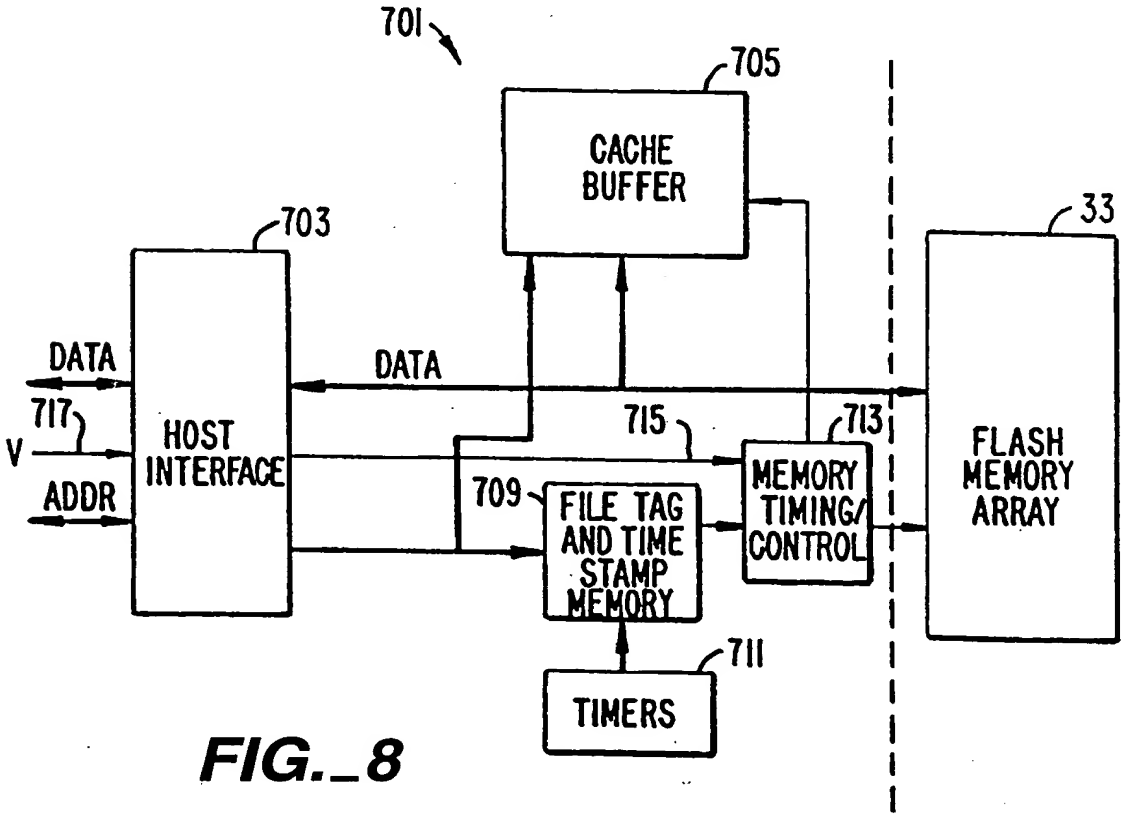


FIG._8

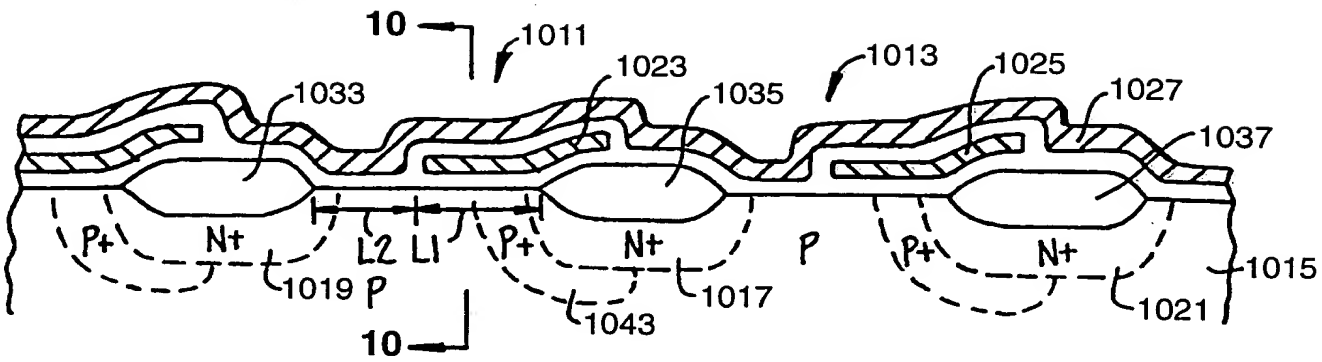


FIG._9

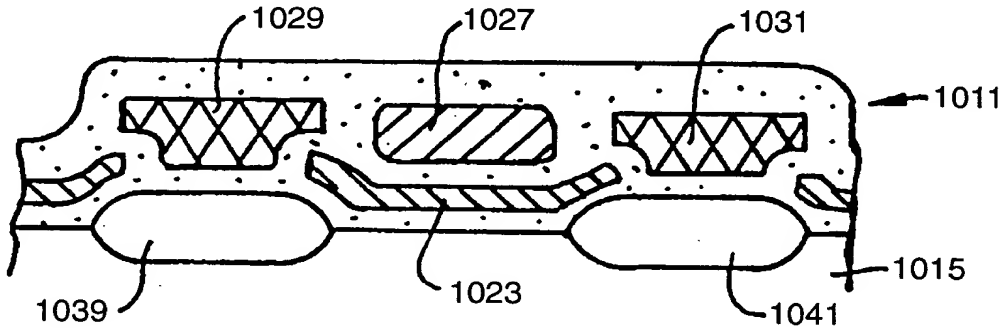


FIG._10

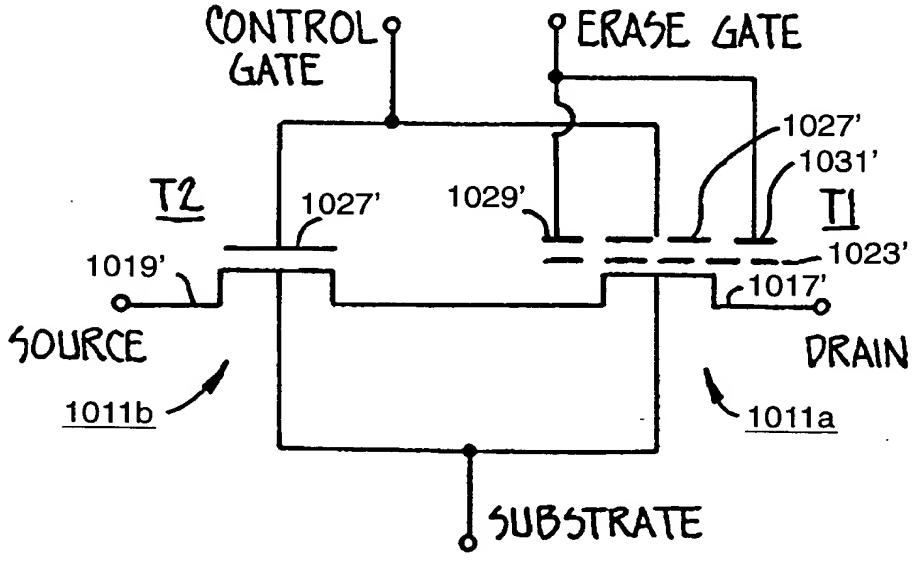


FIG._11

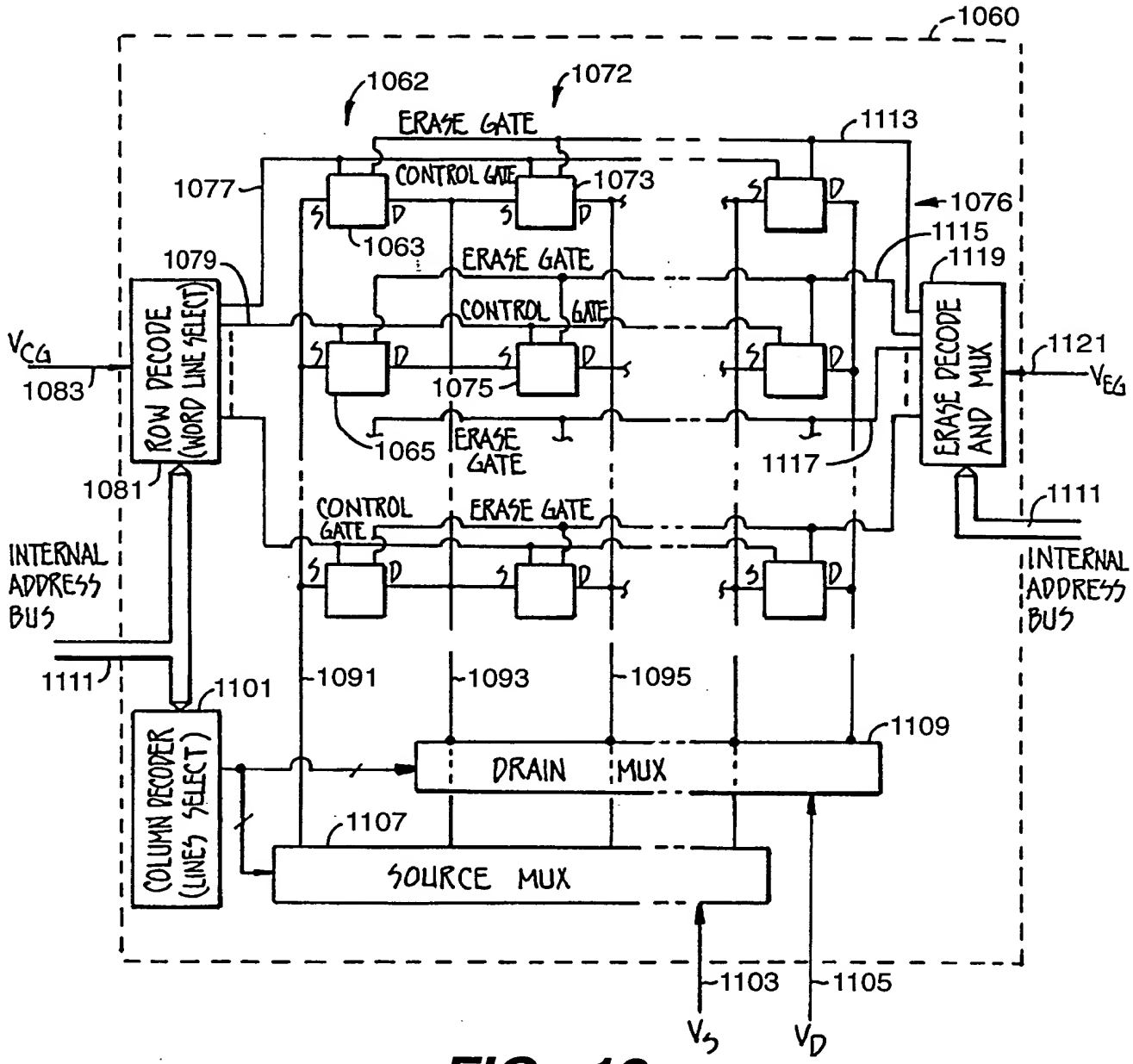


FIG._12

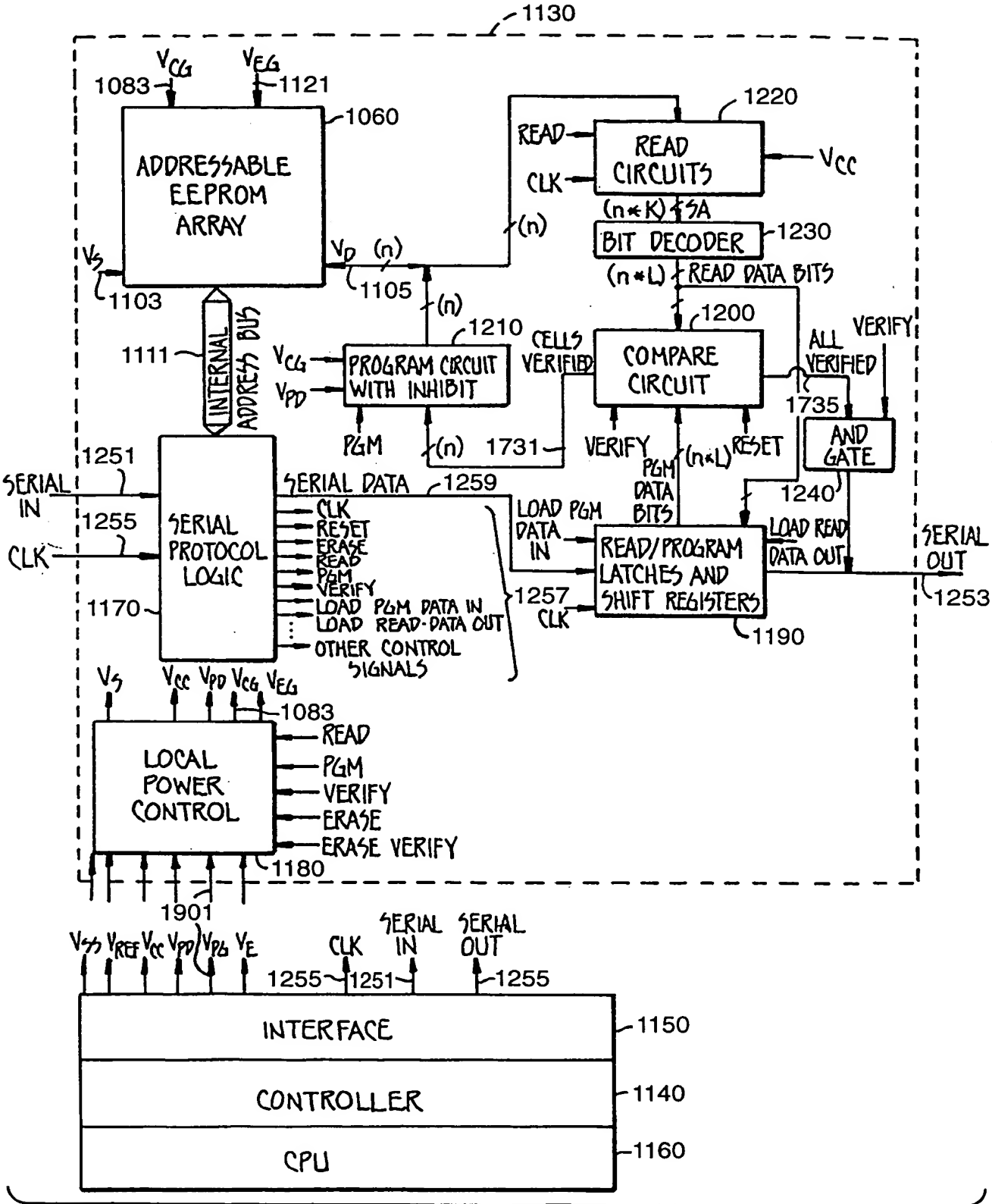


FIG._13

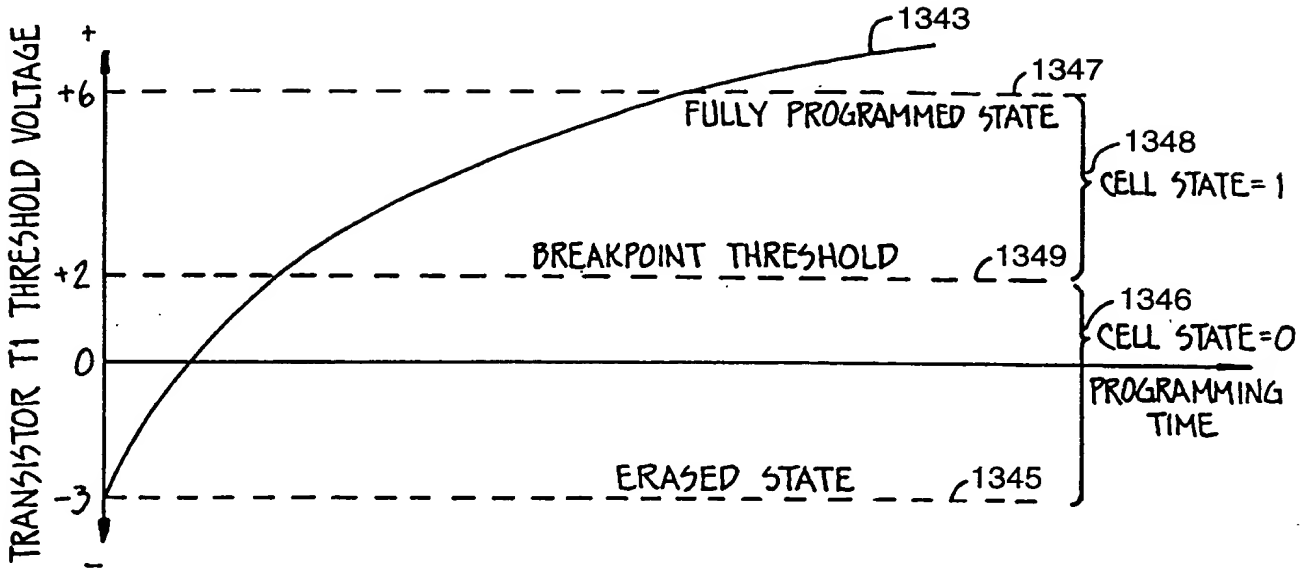


FIG._14

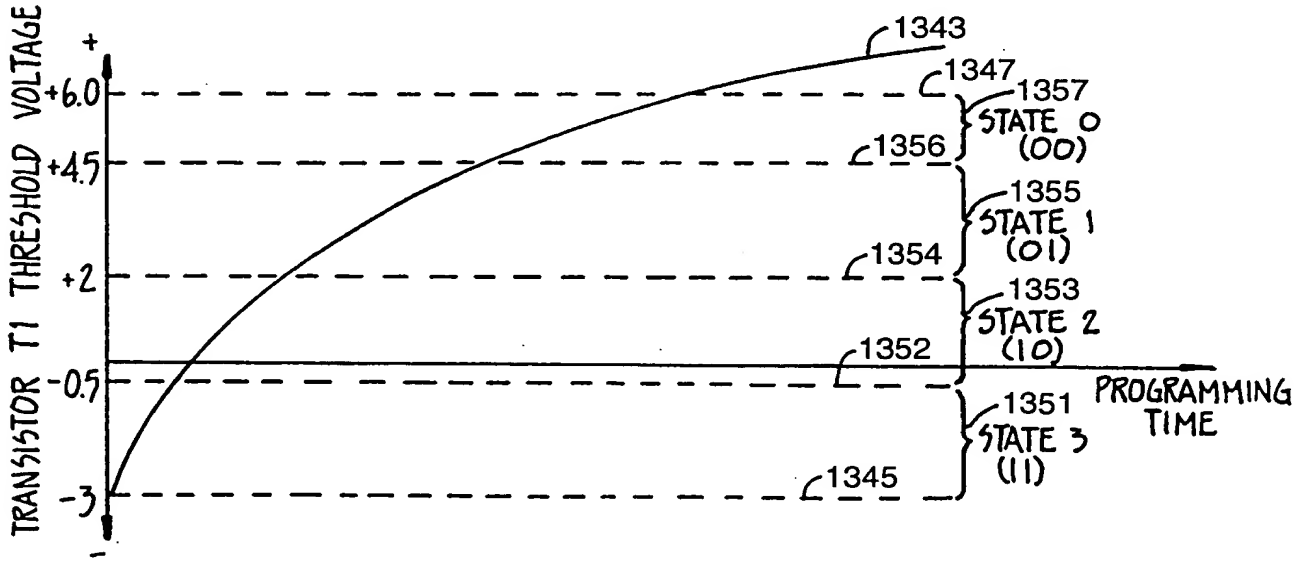


FIG._15A

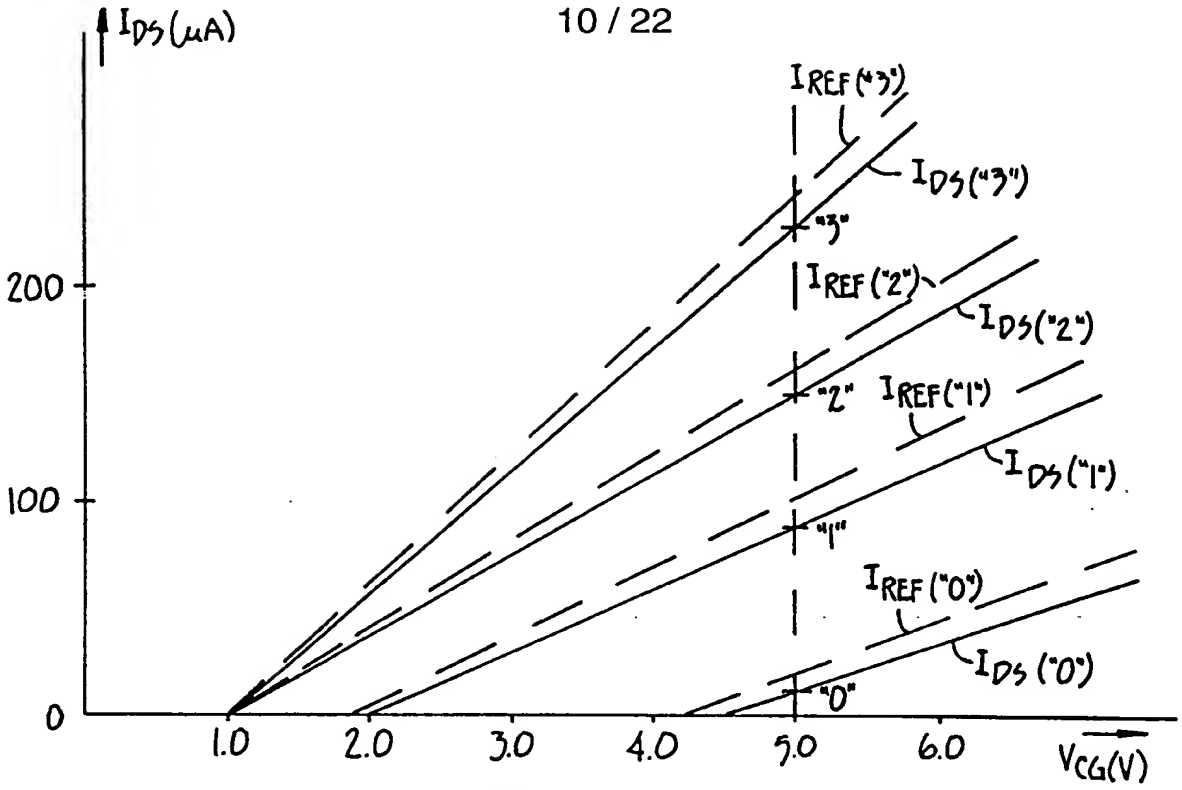


FIG._15B

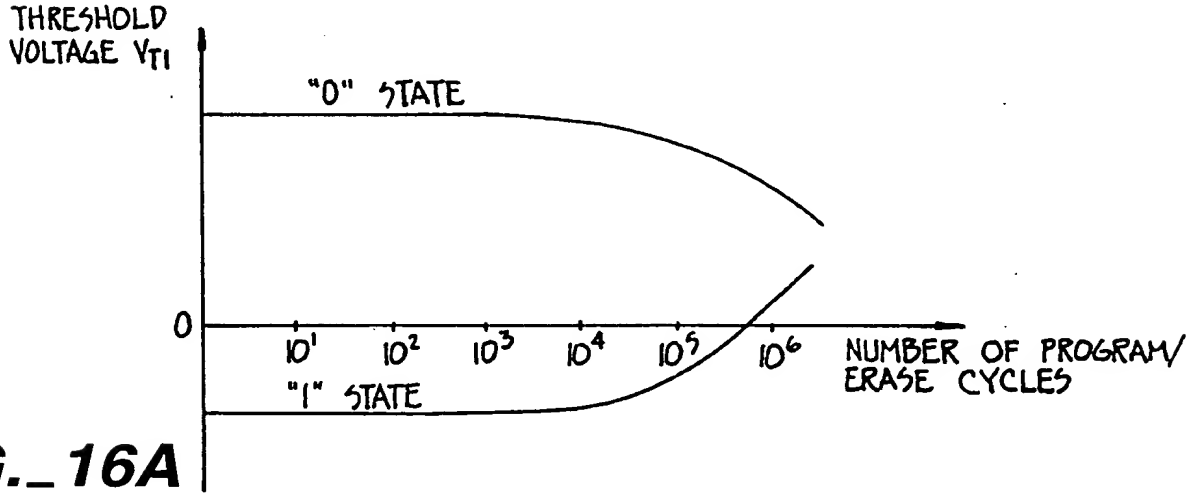


FIG._16A

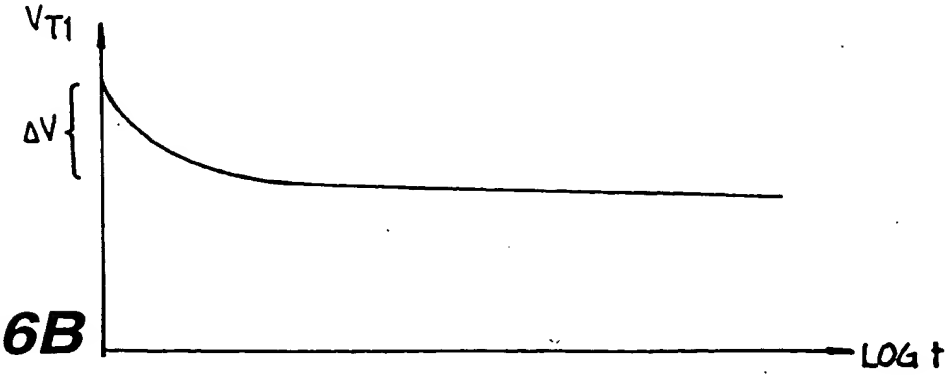


FIG._16B

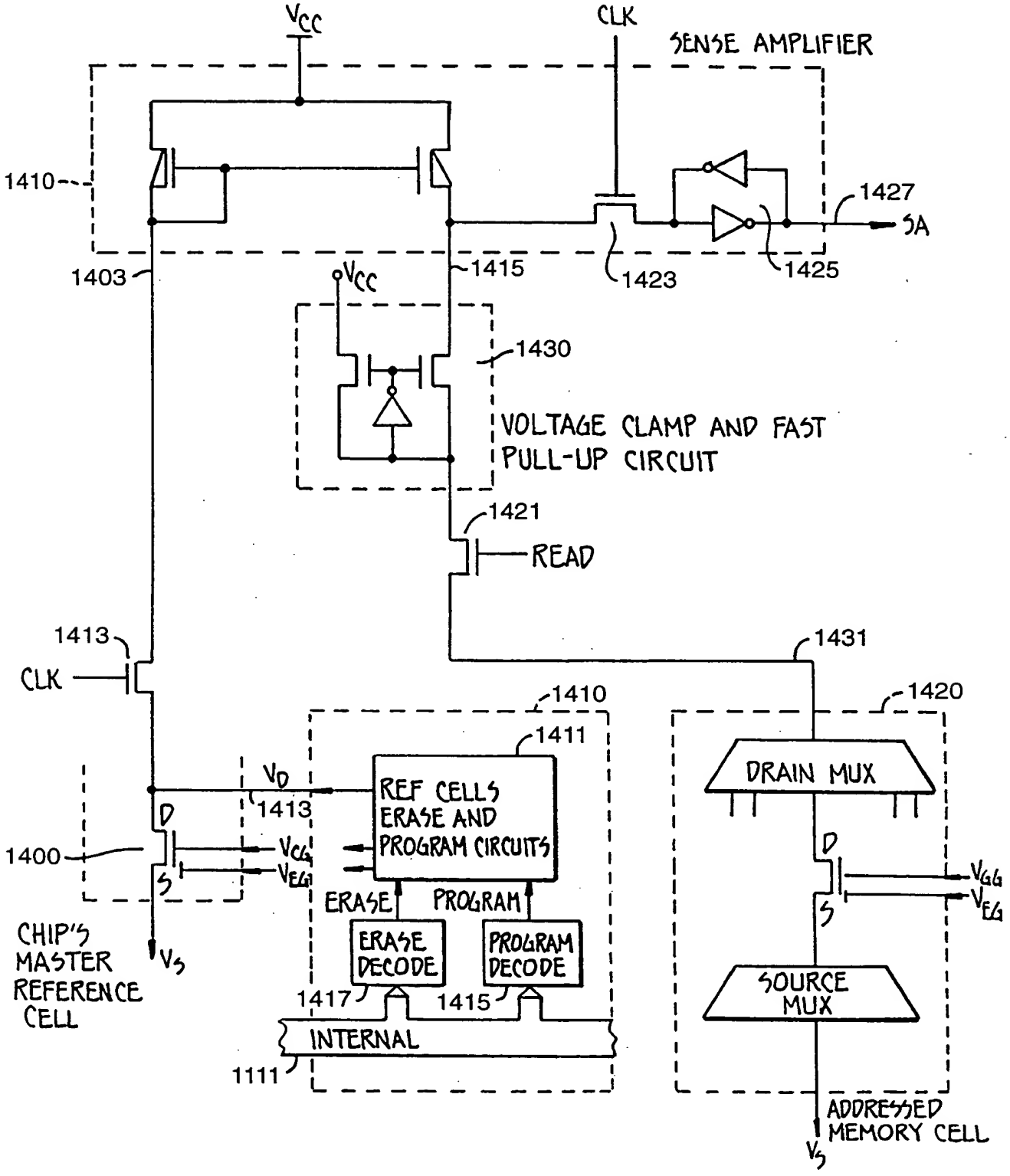


FIG._17A

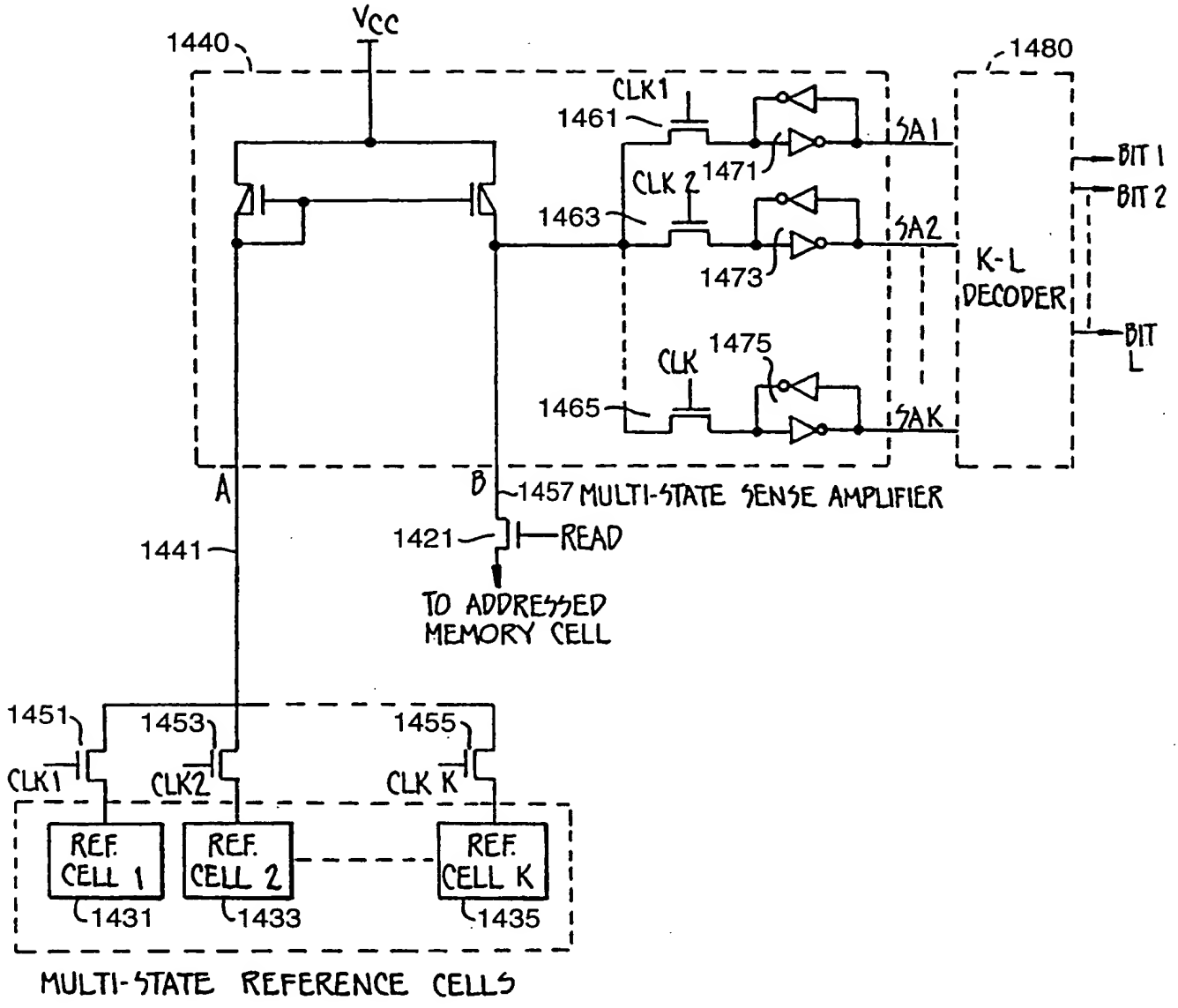


FIG._17B

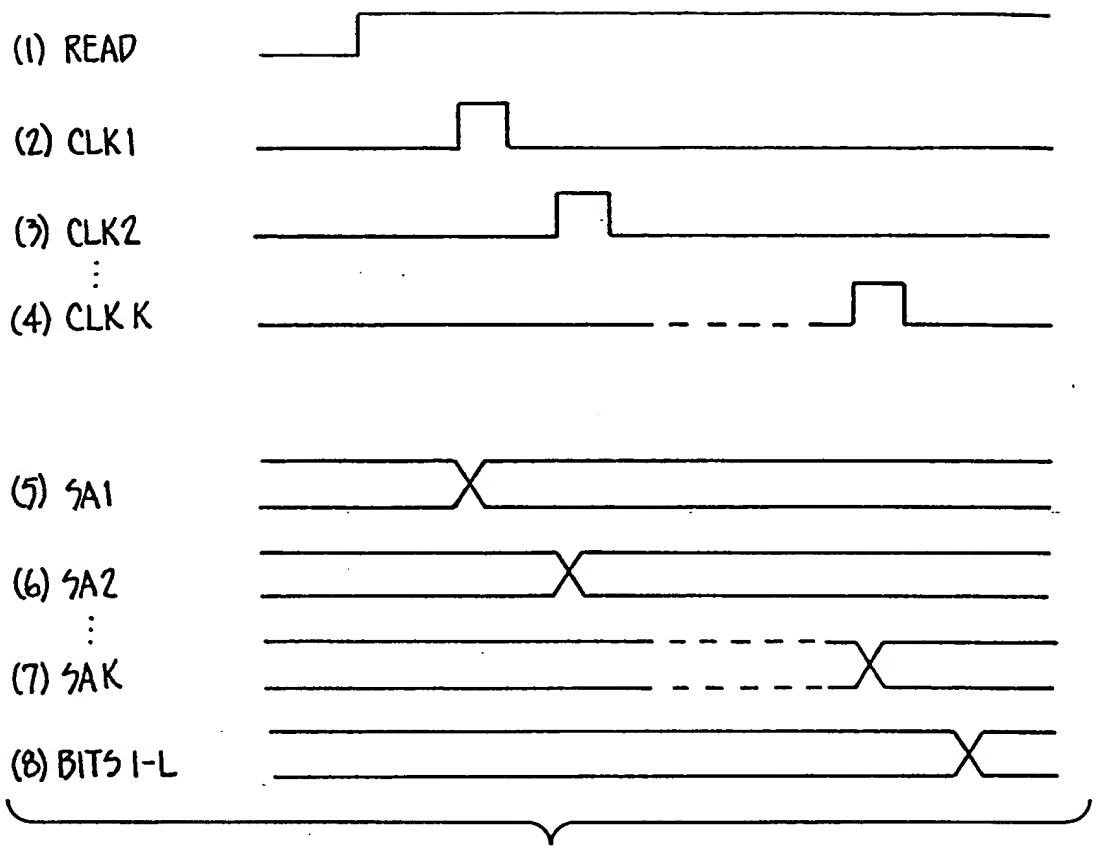


FIG._17C

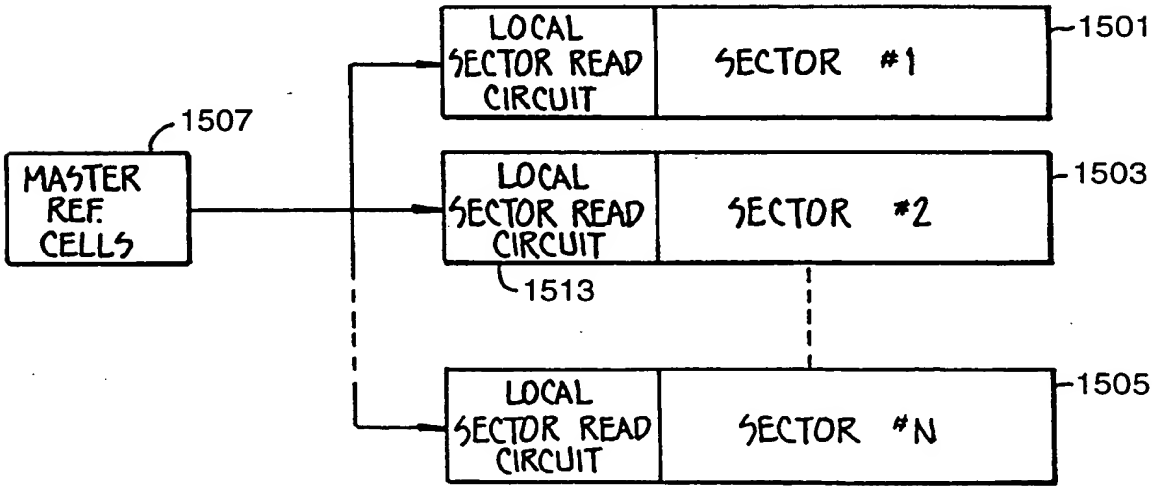


FIG._18

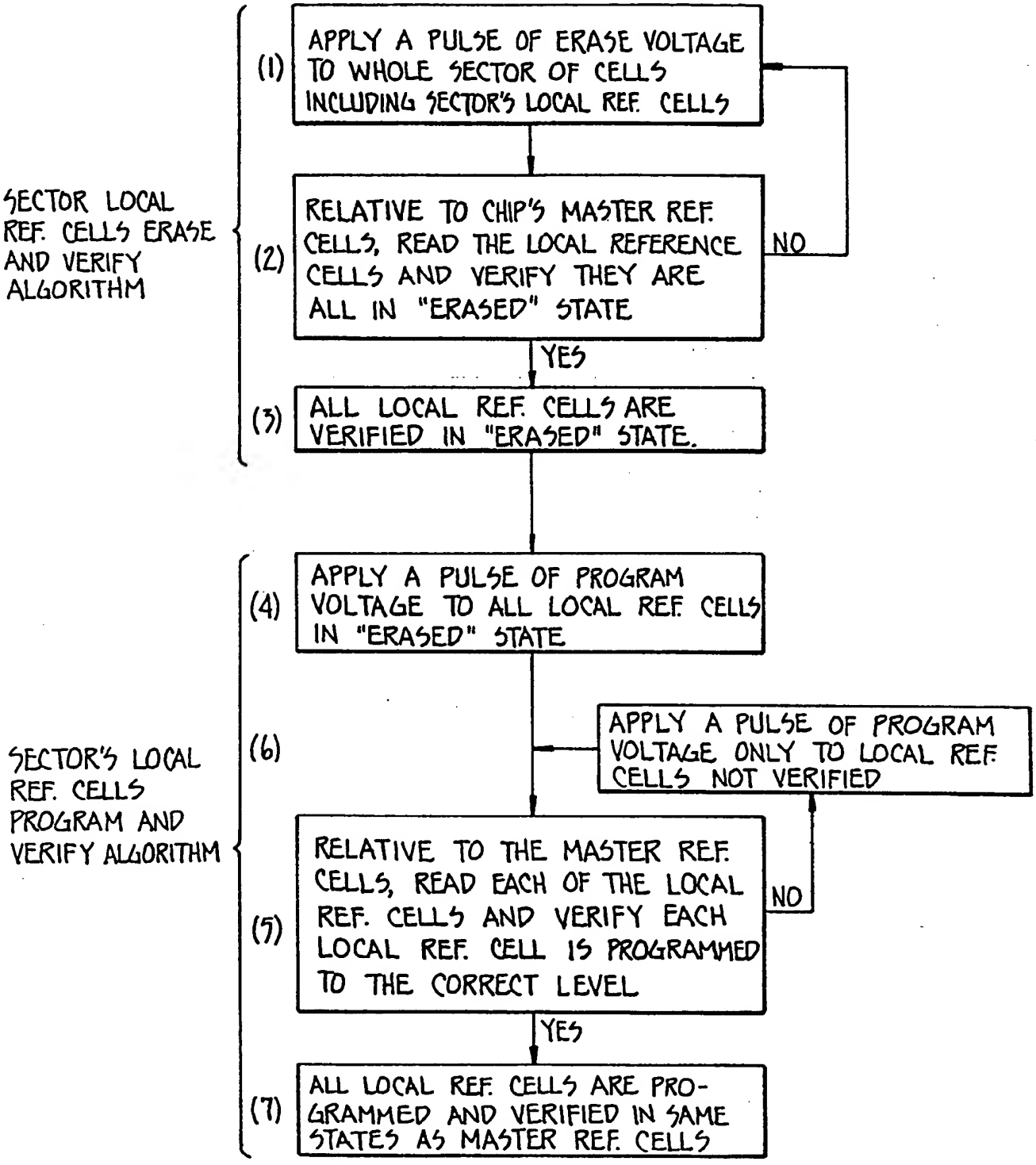


FIG._19

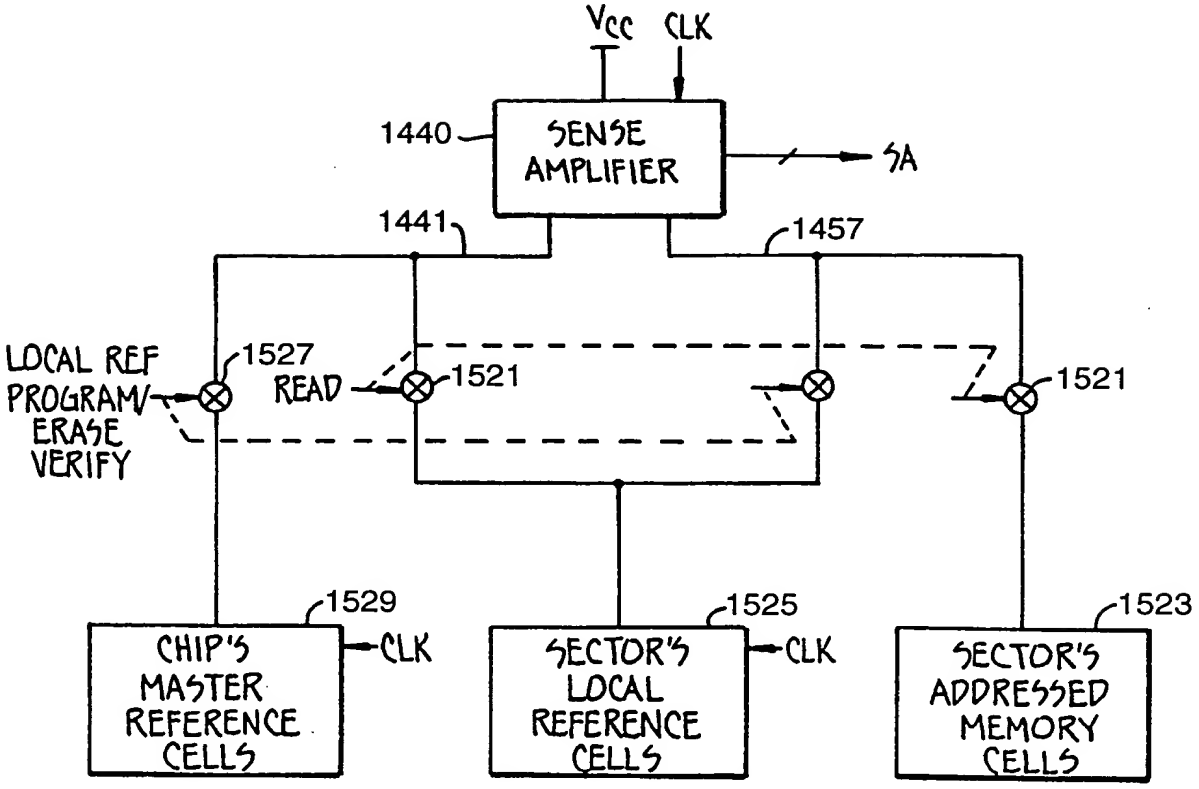


FIG._20A

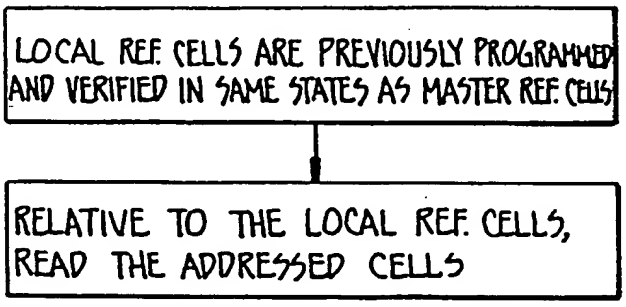
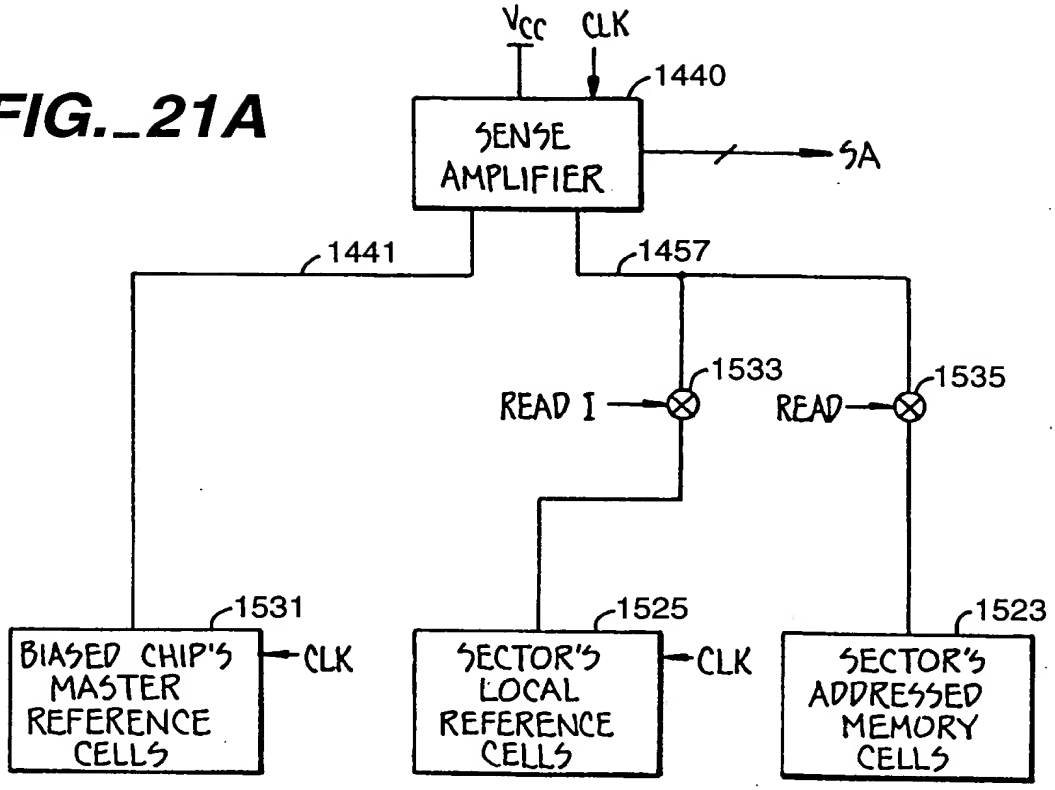


FIG._20B

FIG._21A



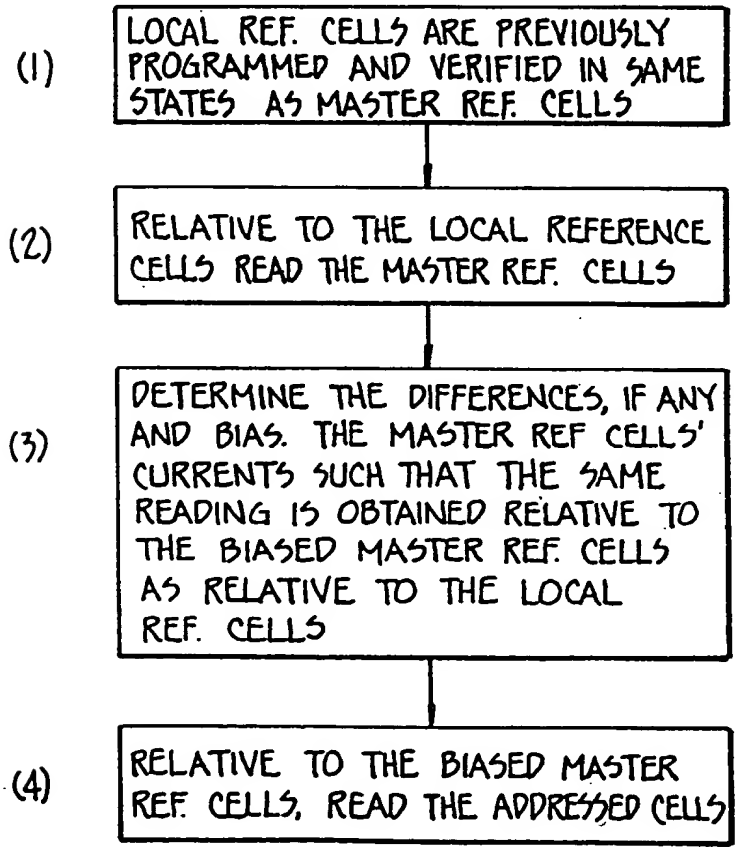


FIG._21D

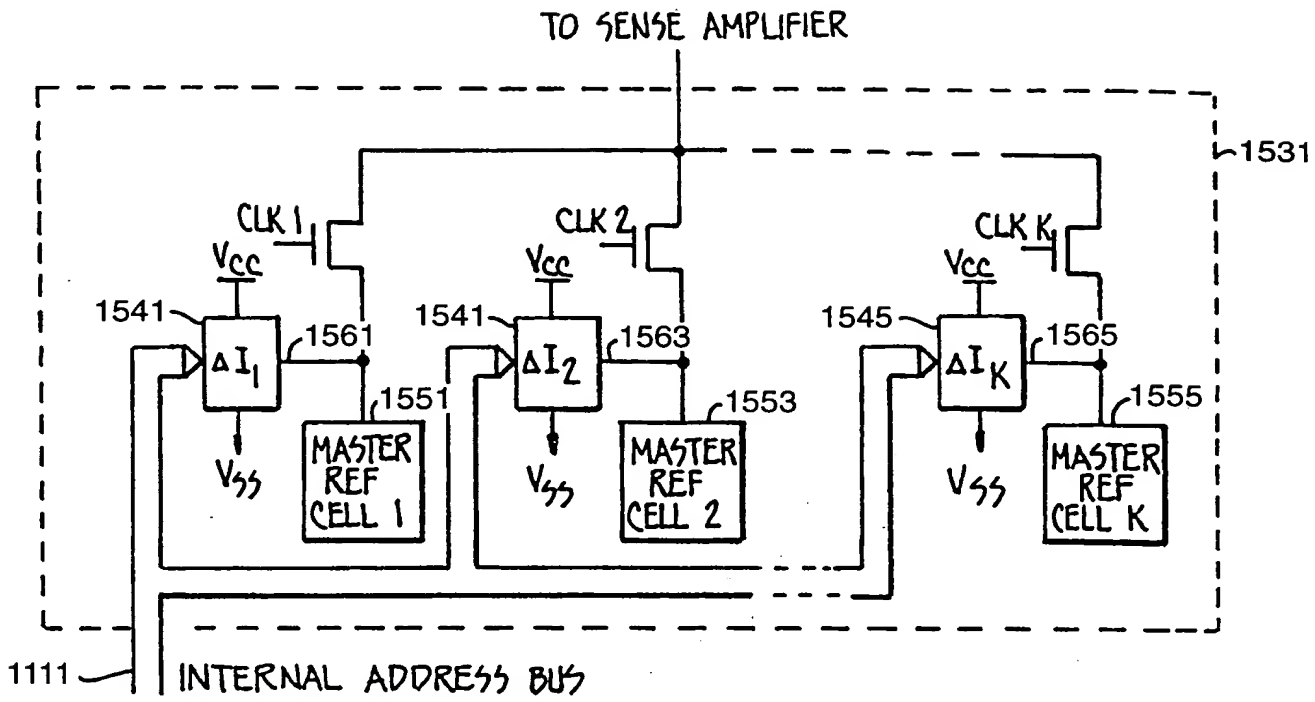


FIG._21B

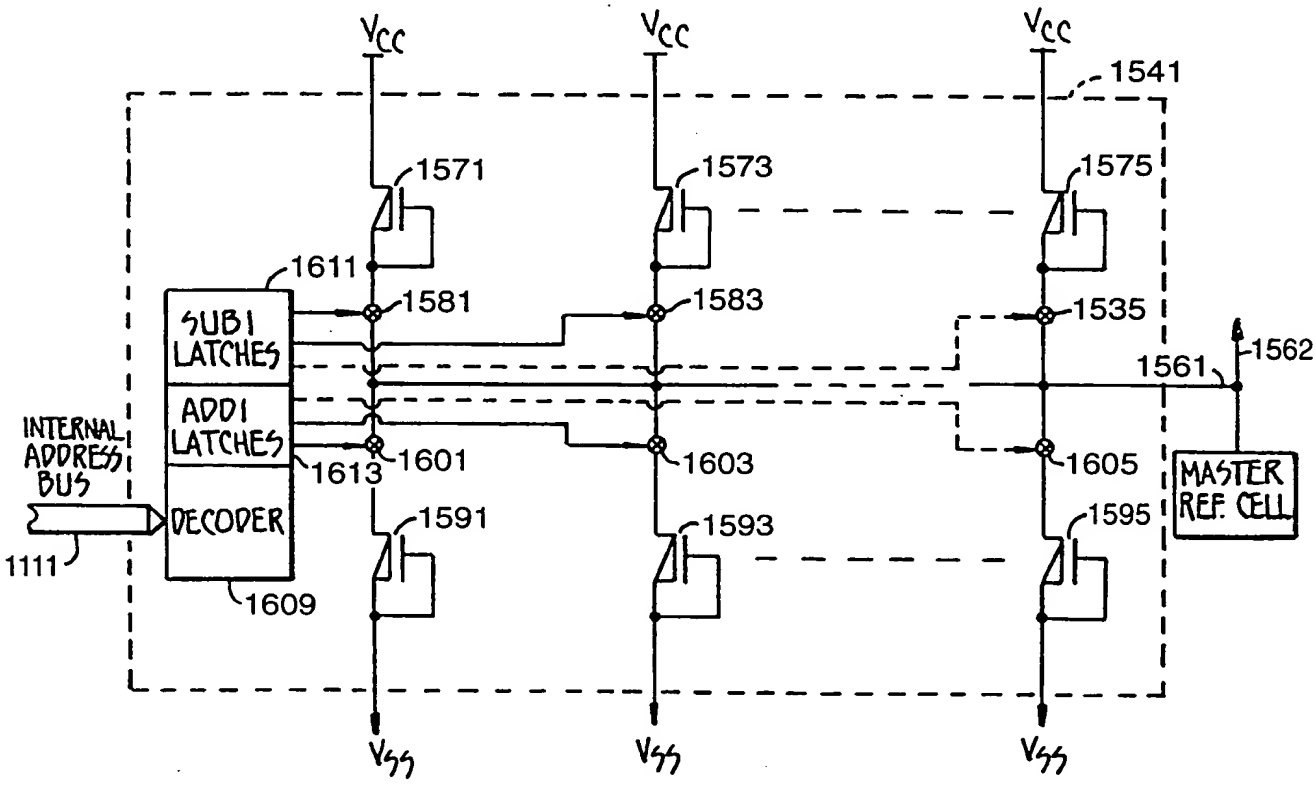
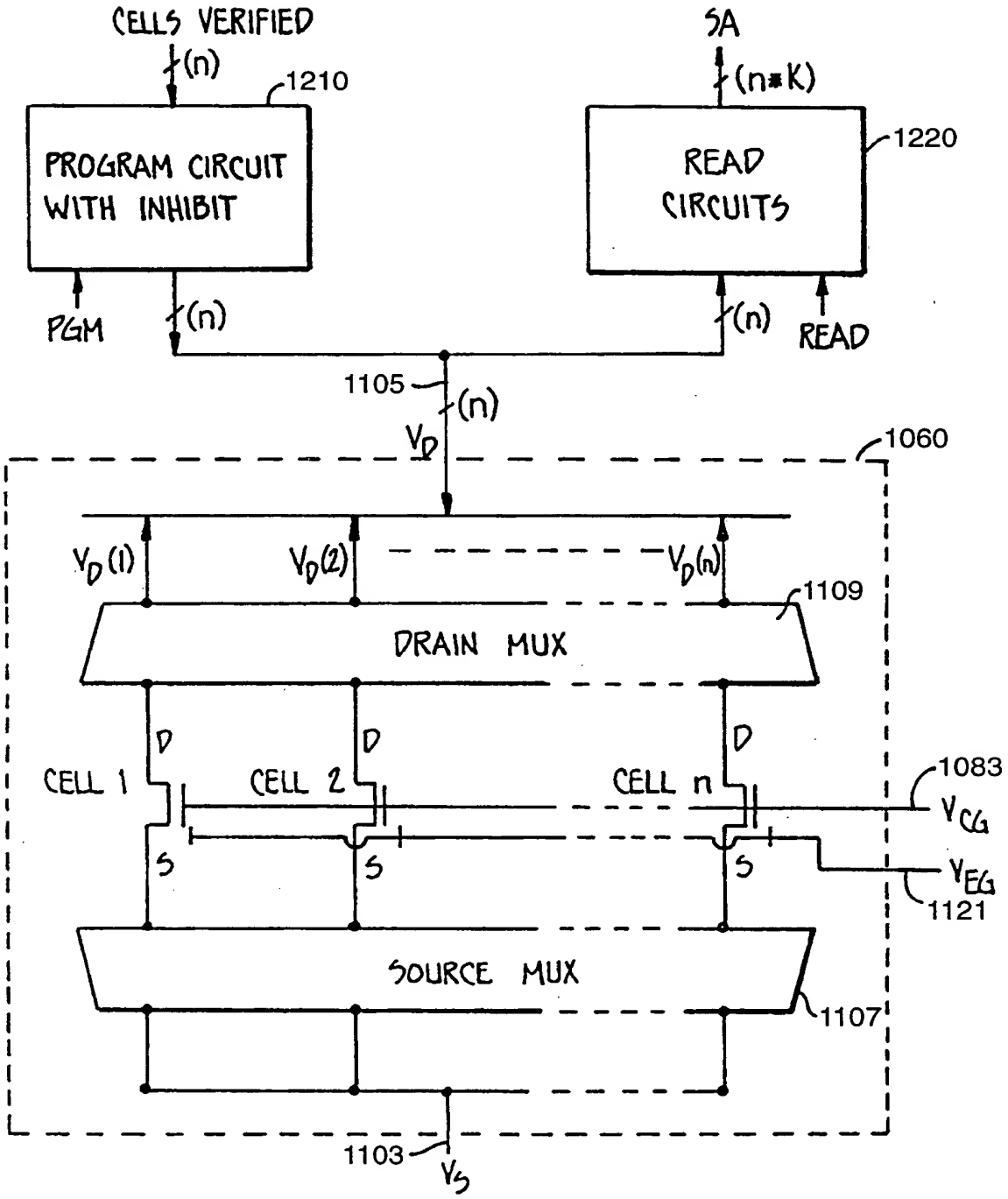
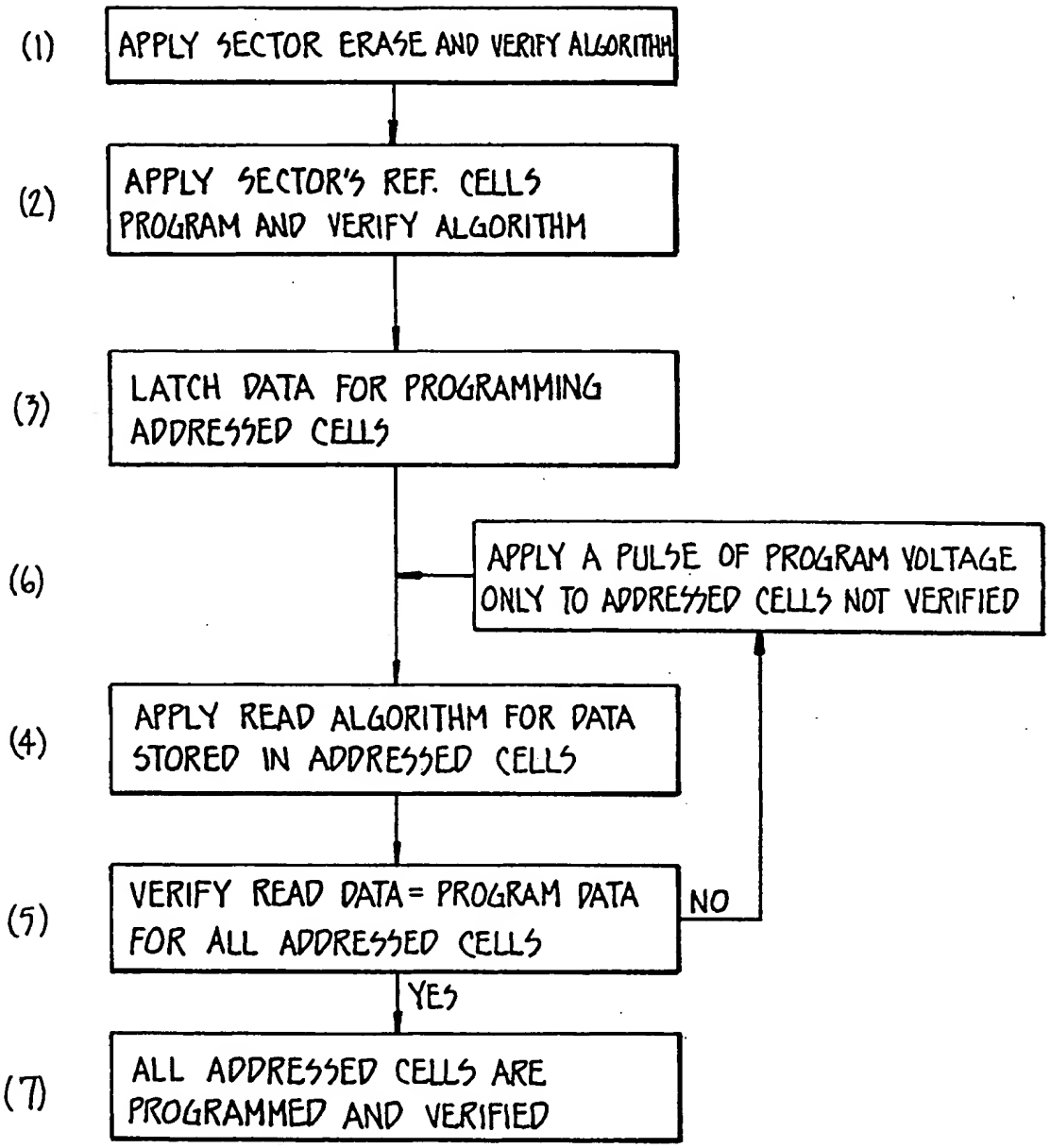


FIG._21C



READ/PROGRAM DATA PATHS FOR n CELLS IN PARALLEL

FIG._22



PROGRAM ALGORITHM

FIG._23

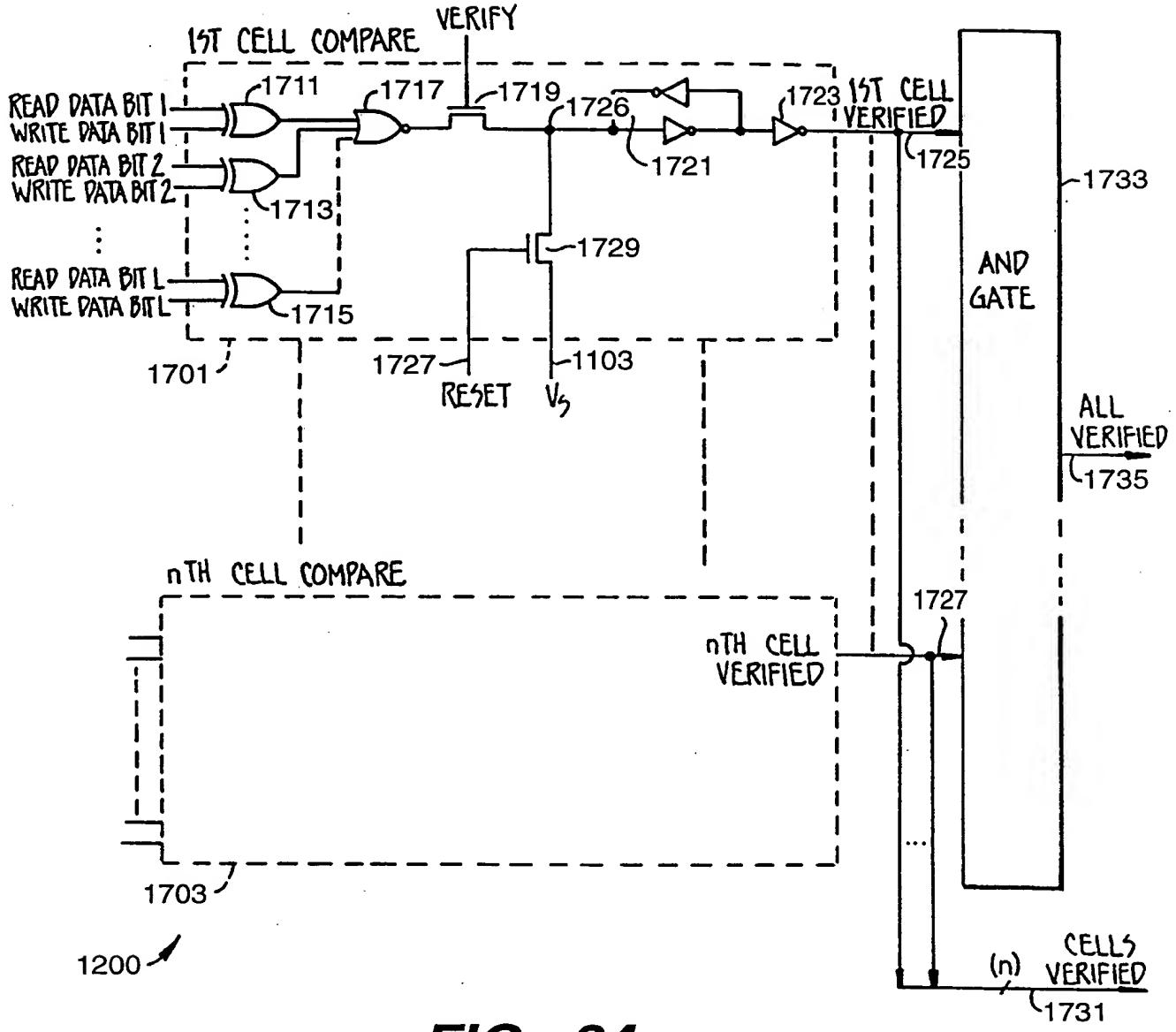


FIG._24

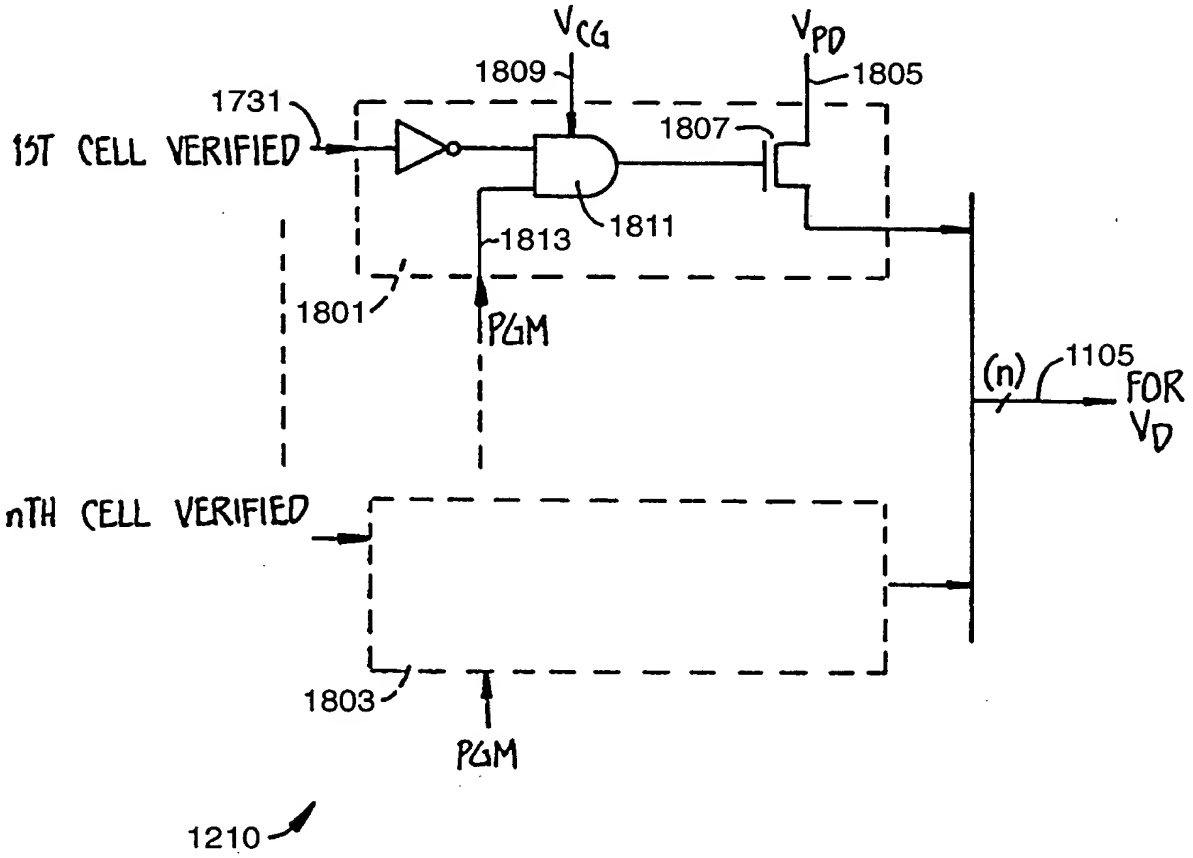


FIG._25

	SELECTED CONTROL GATE V_{CG}	DRAIN V_D	SOURCE V_S	ERASE GATE V_{EG}
READ	V_{PG}	V_{REF}	V_{SS}	V_E
PROGRAM	V_{PG}	V_{PD}	V_{SS}	V_E
PROGRAM VERIFY	V_{PG}	V_{REF}	V_{SS}	V_E
ERASE	V_{PG}	V_{REF}	V_{SS}	V_E
ERASE VERIFY	V_{PG}	V_{REF}	V_{SS}	V_E

TABLE 1

FIG._26

(TYPICAL VALUES)	READ	PROGRAM	PROGRAM VERIFY	ERASE	ERASE VERIFY
V_{PG}	V_{CC}	12V	$V_{CC}+\delta V$	V_{CC}	$V_{CC}-\delta V$
V_{CC}	5V	5V	5V	5V	5V
V_{PD}	V_{SS}	8V	8V	V_{SS}	V_{SS}
V_E	V_{SS}	V_{SS}	V_{SS}	20V	V_{SS}
UNSELECTED CONTROL GATE	V_{SS}	V_{SS}	V_{SS}	V_{SS}	V_{SS}
UNSELECTED BIT LINE	V_{REF}	V_{REF}	V_{REF}	V_{REF}	V_{REF}

V_{SS}=0V, V_{REF}=1.5V, δV=0.5V - 1V

TABLE 2

FIG._27